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The genus *Proscopia* Klug, 1820 (Orthoptera, Caelifera, Eumastacoidea, Proscopiidae) in Central America, with description of a new species

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The genus *Proscopia* Klug, 1820 (Orthoptera, Caelifera, Eumastacoidea, Proscopiidae) in Central America, with description of a new species. - *Corynorhynchus septentrionalis* (Bruner) from Panama and Costa Rica is the only proscopiid known to occur in Central America. Here we show that the specimens previously allocated to this taxon actually comprise at least two and probably three species of the genus *Proscopia*. We describe *P. panamensis* n. sp. and redescribe *P. septentrionalis* (Bruner) (reinstated comb.). We are unable to describe the third taxon due to lack of adult material.

Key-words: Orthoptera - Caelifera - Proscopiidae - taxonomy - Central America.

INTRODUCTION

In the most recent revision of the family Proscopiidae, Jago (1989) noted that the genus *Corynorhynchus* was in need of revision, as many of its species were in his opinion badly identified. One of the most difficult taxa to place has been the species *septentrionalis* Bruner, 1905, the most northerly proscopiid known and the only one recorded from Central America. This species was originally described in the poorly defined genus *Taxiarchus*, later transferred to *Proscopia* by Hebard (1924), and most recently to *Corynorhynchus* by Jago (1989). The confused situation has been exacerbated by the paucity of specimens. Bruner's description was based on two specimens from Pozo Azul de Pirrís, Costa Rica, which he described as being a ♂ and ♀; in fact both are ♀♀, one adult and one larva, as originally noted by Hebard (1924). Hebard also cited two further specimens collected by D.E. Harrower in Gatún, Canal Zone, Panama, one adult ♂ and one ♀ larva. Jago (1989) cited a further ♂ collected by Schrader from Barro Colorado Island, Canal Zone, Panama, belonging to the collection of the Academy of Natural Sciences, Philadelphia (ANSP); he also mistakenly recorded the lectotype ♀ as coming from Panama, instead of Costa Rica.

We recently located two more adult ♀♀ and one adult ♂ in the collections of the Instituto Nacional de Biodiversidad (INBio), Costa Rica, and an adult ♂ and a ♀

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larva in those of the Smithsonian Tropical Research Institute in Panama (STRI). Additionally we collected two further specimens (an adult ♀ and a ♀ larva) on Cerro Copé, Panama, in September 1997. We have used all these specimens, including the type series from the ANSP, to review the Central American proscopiids, as part of an on-going revision of the entire family (Bentos-Pereira, in progress)[1]. We show here that there are in fact at least two Central American species, one from Costa Rica (*septentrionalis* Bruner), which we redescribe, and another species (*panamensis* n. sp.) from Panama. There is probably a second new species among the specimens, but there is to date insufficient material for a description. All three must be attributed to the genus *Proscopia* as it is currently defined.

METHODS

For the description of the ♂ internal genitalia we use the terminology proposed by Jago (1989); his diagram is reproduced in Figure 1. Numbers in the text following an anatomical term refer to this diagram. We also use the structure of the ♀ spermatheca as a systematic character, based on the description and classification of this structure in the Proscopiidae given originally by Descamps (1973). All measurements were made under the microscope with a digital read-out micrometer stage and an eyepiece graticule. The measured dimensions are defined in Figures 2, 3, & 4.

DESCRIPTIONS

1. **Proscopia septentrionalis** (Bruner, 1905), reinstated combination

Synonomy

Taxiarchus septentrionalis Bruner, 1905: 313-315, pl. 1; 1908: 342. Kirby 1910: 87 (mistakenly assigns the species to Rehn). Caudell 1911: 159 (mentions Kirby's error). Otte 1978: 34 (location of types).

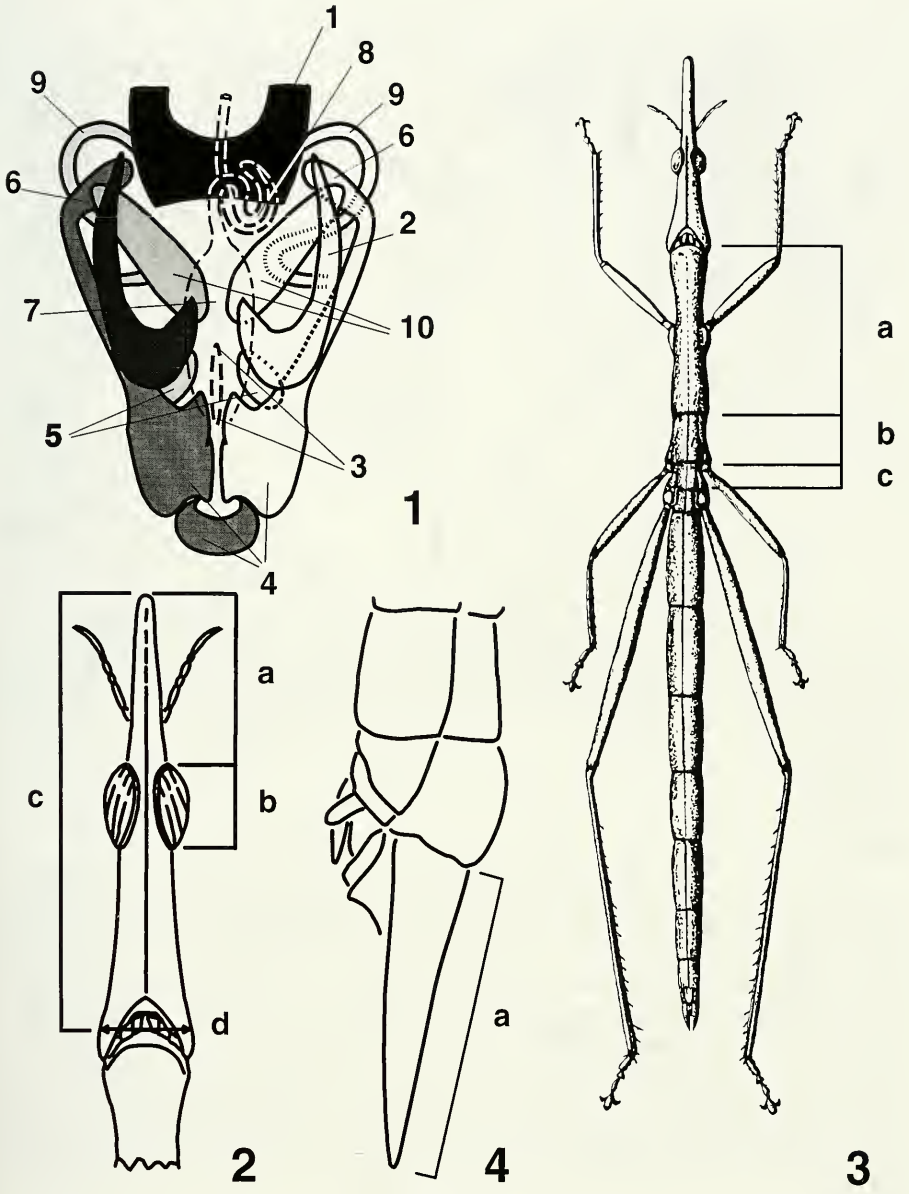
Proscopia septentrionalis (Bruner); Hebard 1924:93 (lectotype selected). Mello Leitao 1939: 417. Carbonell 1977: 24.

Corynorhynchus septentrionalis (Bruner); Jago, 1989: 273 (mistakenly assigns the species to Brunner).

Specimens examined

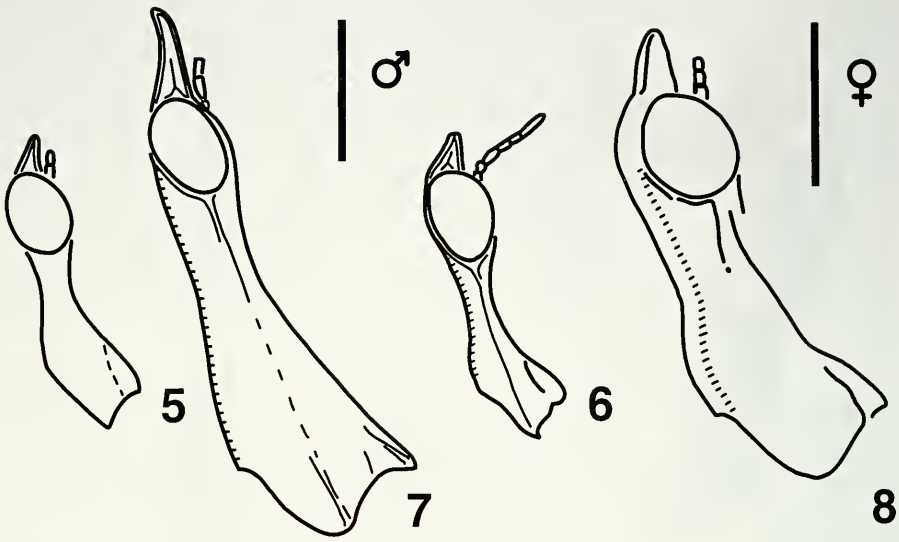
COSTA RICA: Prov. San José: Pozo Azul de Pirrís, June 1905 (M. A. Carriker), 1 adult ♂, specimen nos. H233, CSC2670, ABP224. Lectotype of *Taxiarchus septentrionalis* Bruner, 1905 (ANSP). COSTA RICA: Prov. Puntarenas: Osa Peninsula, Corcovado National Park, 18-23 March 1978 (D.H. Jansen), 1 adult ♂, in copulation, specimen nos. CRI001 687843, ABP229 (INBio). This is the first authentic record of a ♂ of this species. Same data as previous specimen, 1 adult ♀, in copulation, specimen nos. CRI001 687844, ABP 228 (INBio). COSTA RICA: Prov. Puntarenas: Osa Peninsula, Agua Buena, Fila Casa Loma, 500 mts, LS N296300 E514300, 28.2.1993 (M.A. Zumbado), 1 adult ♀, specimen nos. 146 MAZ.93, CRI002 510601, ABP 227 (INBio).

[1] The exceptions are the specimens collected by Harrower, which now appear to be missing from the ANSP collections. According to Hebard (1924) their data were as follows: Panamá: Prov. Panamá: Gatún, 25-31 July 1916 (D.E. Harrower), one adult ♂ and one ♀ larva.



FIGS 1-4

FIG. 1. Diagram and nomenclature of the ♂ genital sclerites of the family Proscopiidae, after JAGO, 1989. 1: transverse plate of ectophallic membrane; 2: pair of hook-like lophi; 3: median dorsal slit or genital opening; 4: pair of valvular plates lateral to genital opening; 5: sublophal pair of accessory plates; 6: pair of anterior supplementary lateral plates; 7: distal ejaculatory sac; 8: proximal part of endophallic duct; 9: pair of semicircular lateral struts giving flexible attachment for lophi; 10: pair of plates overlying the anterior supplementary lateral plates (6). – FIG. 2. Dimensions of the head. a: rostrum; b: eye; c: total length of head; d: width of head. – FIG. 3. Dimensions of the thorax. a: pronotum; b: mesonotum; c: metanotum. – FIG. 4. Measure of length of the subgenital plate.



FIGS 5-8

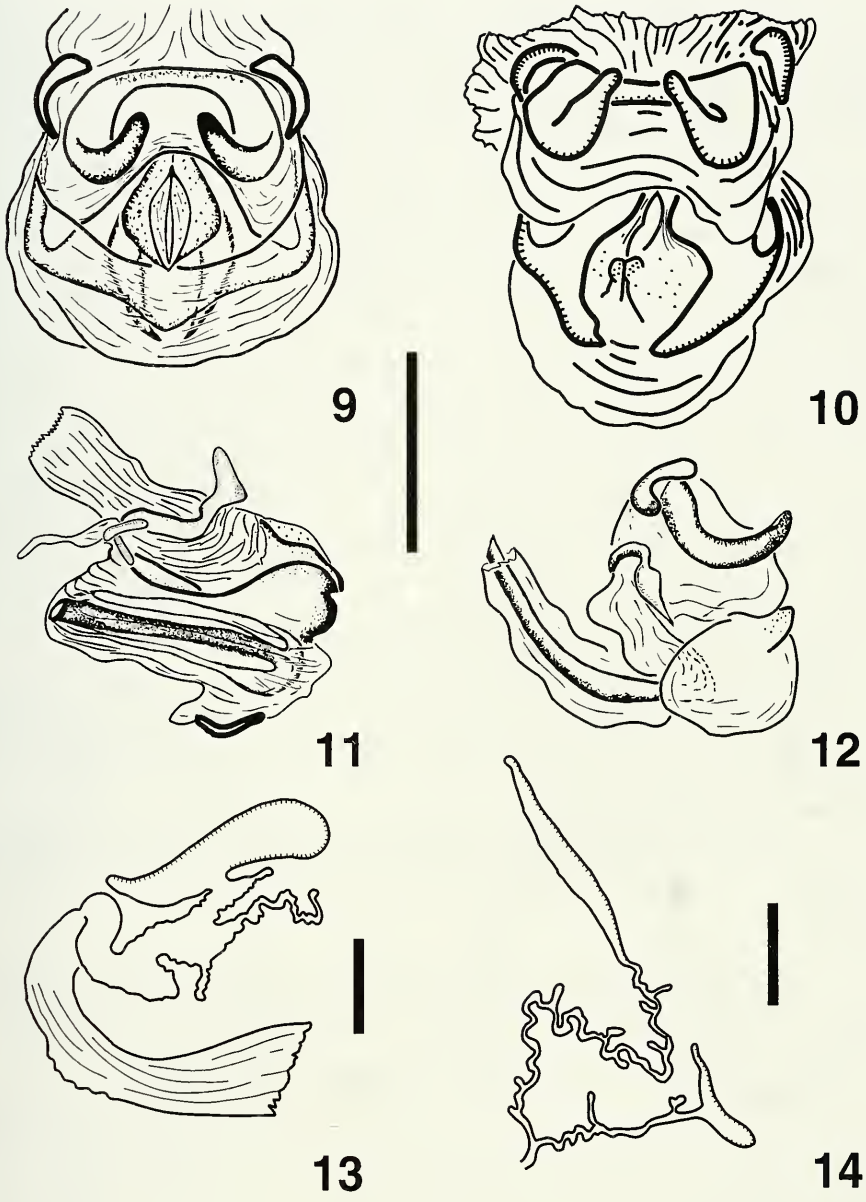
5. Head of ♂ of *Proscopia septentrionalis*. Lateral view. Scale bar 3 mm. – 6. Head of ♂ of *Proscopia panamensis*. Lateral view. Scale bar 3 mm. – 7. Head of ♀ of *Proscopia septentrionalis*. Lateral view. Scale bar 5 mm. – 8. Head of ♀ of *Proscopia panamensis*. Lateral view. Scale bar 5 mm.

REDESCRIPTION

Male:

Genitalia (Figures 9, 11). Anterior transverse plate (1) united with the lophi (2), which terminate in strong hooks, curving upwards and converging towards the midline. This unitary plate is equivalent to an epiphallus. It is located in a delicate membrane which extends towards the anterior part of the aedeagus. Laterally this membrane unites the transverse plate with lateral plates (10) in the same plane. The same membrane extends posteriorly, covering the median slit (3), which extends almost to the posterior extremity of the aedeagus. In this species (but not in *panamensis*) the slit is closed posteriorly and below by the fused lateral plates (4), which form a very obtuse angle extending from in front of plate (1) almost to below plate (10). The fused lateral plates (4) articulate with the anterior complementary plates (6), which are not straight but twisted.

The median slit communicates with a pleated membranous chamber, in the floor of which opens a strongly sclerotized duct. This duct is tubular and opens proximally by means of a sclerotized valve. It is probable that during copulation the duct is not everted via the median slit, but that the pleated chamber acts as the intromittent organ, as in the closely related genus *Astromascopia* (Bentos, unpubl.), and that the sclerotized duct acts as an ejaculatory duct.



FIGS 9-14

9. Aedeagus of *Proscopia septentrionalis*. Dorsal view. Scale bar 1.5 mm. – 10: Aedeagus of *Proscopia panamensis*. Dorsal view. Scale bar 1.5 mm. – 11. Aedeagus of *Proscopia septentrionalis*. Lateral view. Scale bar 1.5 mm. – 12. Aedeagus of *Proscopia panamensis*. Lateral view. Scale bar 3 mm. – 13. Spermatheca of *Proscopia septentrionalis*. Scale bar 1 mm. – 14. Spermatheca of *Proscopia panamensis*. Scale bar 1 mm.

External morphology. Head delicate and elongate, markedly constricted behind the large globular eyes. Rostrum short, slightly inclined downwards, dorso-ventrally compressed, pointed tip somewhat rounded, the four edges weakly carinate (Figure 5). Coronary suture present. A small weak carina runs from the gena to the base of the eye. Antenna with 7 segments, antennal organs present on the sixth and seventh segments.

Thorax. Prothorax tubular, anterior and posterior edges of the pronotum smooth, the latter forming a raised annulus. Anteriorly and laterally there are two slight depressions lighter in colour than their surround, and medially two others matching the surround. Integument ornamented with relatively large tubercles, particularly noticeable above the well-developed pleural suture. Apterous. Mesonotum and metanotum not inflated. Midline with tegumentary ornamentation, but finer and less marked than in the prothorax. Mesothoracic pleural suture smooth, pleura without ornament. Metathoracic pleural suture carinate, pleura smooth. A single mid-line tubercle somewhat posteriorly on the metanotum. Prothoracic legs inserted near the midline of the prosternum, not laterally. Prothoracic femora with fine denticles, tibiae smooth, square in cross-section and with minutely serrate carinae, the external and internal ventral carinae bearing additionally 15 and 13 small spines respectively (15/13). Mesothoracic legs very similar, with 12/12 femoral spines. Metathoracic femur slightly inflated at the base, two dorsal carinae, integument finely denticulate. Metathoracic knees with two short dorsal spines. Metathoracic tibae with 17/11 small dorsal spines, those of the inner row being longer; two small ventral and two large dorsal tibial spurs.

Abdomen. First abdominal notum similar to the metathoracic notum. The rest of the abdomen smooth, cuticle sparsely punctate, medial carina well-marked. Supraanal plate (Figure 17) with slightly convex margins terminating in a rounded process. Cerci simple, slightly inward curving, two thirds as long as supraanal plate; subgenital plate short and rounded (Figures 15, 19).

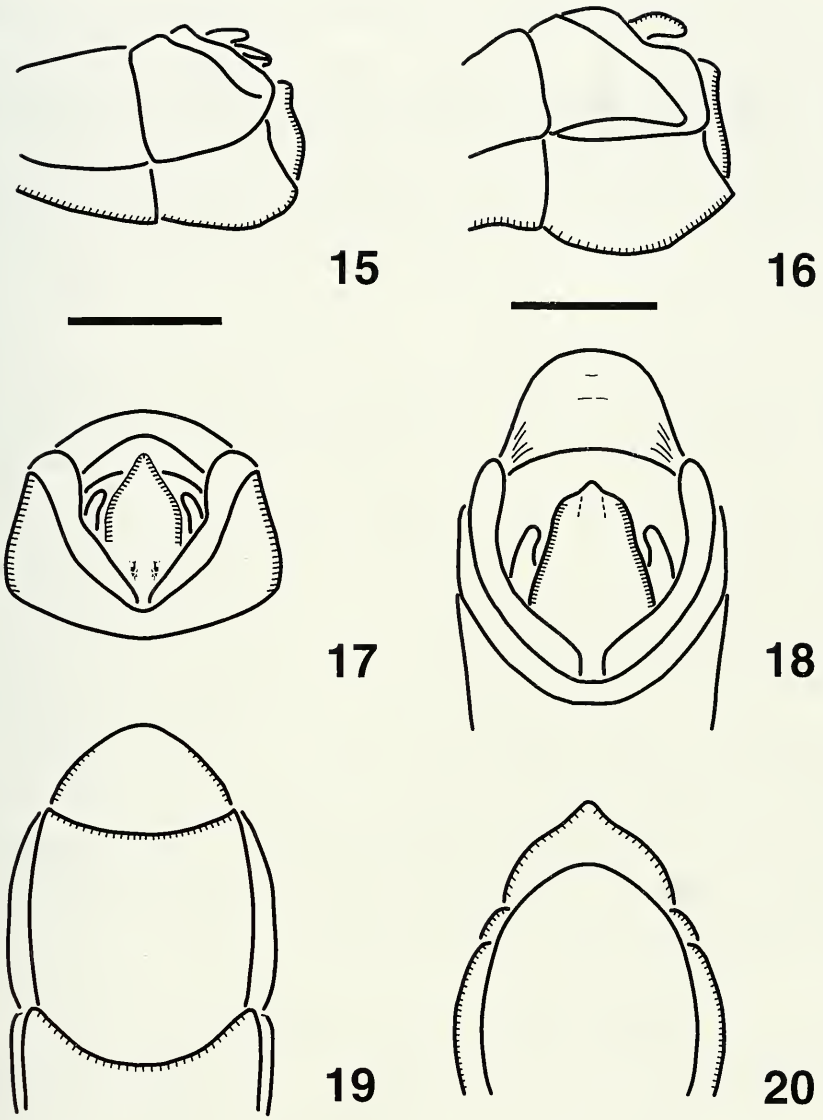
Coloration. Specimen CRI001 687843 was photographed alive in colour by the collector, P. De Vriess: the transparency shows a dark brown insect devoid of other markings.

Female:

Genitalia. Spermatheca of type 4 (Descamps 1973), having a terminal ampulla with a small preapical diverticulum and one large and three small vermiform diverticula (Figure 13).

Table 1. Dimensions of ♂ of *P. septentrionalis* (mm).

Specimen number	INBio CRI001 687843
Length of head	9.9
Length of rostrum	1.38
Largest diameter of eye	2.88
Width of head (dorsally, at the level of the pronotum)	3.22
Length of pronotum	26.22
Length of mesonotum	2.59
Length of metanotum	2.36
Length of subgenital plate	2.67



FIGS 15-20

15. Tip of abdomen of ♂ of *Proscopia septentrionalis*. Lateral view. Scale bar 1 mm. – 16. Tip of abdomen of ♂ of *Proscopia panamensis*. Lateral view. Scale bar 1 mm. – 17. Supraanal plate of ♂ of *Proscopia septentrionalis*. Scale bar 1 mm. – 18. Supraanal plate of ♂ of *Proscopia panamensis*. Scale bar 1 mm. – 19. Subgenital plate of ♂ of *Proscopia septentrionalis*. Scale bar 1 mm. – 20. Subgenital plate of ♂ of *Proscopia panamensis*. Scale bar 1 mm.

External morphology. Larger and more robust than the ♂, but generally very similar.

Head. Rostrum as in ♂ but slightly inclined upwards (Figure 7). The general shape of the head is somewhat less elegant than in the ♂; the same carinulae are present on the rostrum and on the genae. Coronal suture obsolete. Antennae broken.

Thorax. Prothorax similar to that of ♂. The ornamention is proportionally somewhat coarser. There are no definite granules above the pleural suture, and the posterior margin of the pronotum is less marked. Meso- and metathorax very similar to ♂, not inflated and without wing rudiments. Pleura granulated, not smooth. A well-marked line of short spines on both episterna, similar to that of *Corynorhynchus spinosus*. Prothoracic legs as in ♂, bearing 12/13 small spines. Mesothoracic femur similar to prothoracic but with weaker carinae, tibia with 11/9 spines. Metathoracic femur slightly inflated basally, covered with denticles and bearing two prominent dorsal carinae. Metathoracic knees with two short dorsal spines. Metathoracic tibiae with 9/16 dorsal spines, smaller than expected in an insect of this size.

Abdomen. First segment similar to the thoracic segments, but flatter and with fewer granules. Pleural suture almost obsolete, without the carinae present in the ♂. The remaining abdominal segments are completely smooth, with a weak medial carina. Supraanal plate with slightly thickened margin, ending in an acute process (Figure 21). Cerci small, conical, about one fifth the length of the supraanal plate. Subgenital plate rounded, with a spatulate projection medially, which is slightly narrower basally than apically (Figure 23). Ovipositor valves large and strong, smooth.

Coloration. The specimen CRI002 510601 was photographed alive in colour by its collector, M. Zumbado. The photograph shows a uniformly dark reddish-brown insect, with a slightly paler abdomen, lacking all other markings. Tibial spines black. The specimen CRI001 687844 was similarly photographed by the collector, P. De Vriess. In this ♀ the ventral edges of the first 4 abdominal tergites are conspicuously edged with white, forming a tapering lateral stripe. The two collecting localities are only a few kilometres apart. In the holotype ♀ the pale markings are asymmetrical, being better developed on the left side than on the right.

TABLE 2. Dimensions of ♀♀ of *P. septentrionalis* (mm)

Specimen number	INBio CRI002 510601	INBio CRI001 687844	Holotype ABP 224
Length of head	14.71	13.85	15.3
Length of rostrum	3.06	2.73	3.0
Largest diameter of eye	3.74	3.34	3.4
Width of head (dorsally, at the level of the pronotum)	6.76	6.69	6.2
Length of pronotum	35.66	31.94	36.7
Length of mesonotum	6.31	4.47	5.5
Length of metanotum	4.23	4.84	5.1

2. **Proscopia panamensis** sp. n.

Specimens examined

Holotype. PANAMA: Prov. Panamá: Km 7.5, El Llano-Carti Road (87°55'W, 9°17'N), 9.5.96, (Hermógenes Fernández Marín), adult ♂, specimen nos. 98047, ABP 225 (STRI).

Paratypes. PANAMA: Prov. Coclé: Cerro Copé, 830 m, 20.9.1997 (C.H.F. Rowell & A. Bentos-Pereira), adult ♀, specimen nos 97532, ABP 81, alcohol specimen (ANSP). PANAMA: Same data as previous specimen (specimen no. 97533). ♀ larva, alcohol specimen (Museo Fairchild, University of Panama). PANAMA: Prov. Panamá: Barro Colorado Island, 27.8.77 (R. Silberglied & A. Aiello), ♀ larva, specimen no. 98048 (STRI).

Description

Male:

Similar to the ♂ of *P. septentrionalis*, from which it differs as follows: Genitalia (Figures 10, 12). The genital complex is larger, robuster and (at least in our specimens) more strongly sclerotized, especially the lophi and the lateral plates. The medial slit is not closed below by fused lateral plates; in this species these remain separate, and extend laterally and posteriorly as far as the anterior complementary lateral plates (6). These latter are of a similar twisted shape to those of *P. septentrionalis* but are additionally folded back on themselves at the anterior end and are provided with sensory hairs.

External morphology. In general less gracile than *P. septentrionalis*. Head (Figure 6). Rostrum short with truncate tip. Rostral edges weakly carinate, the carinae not continuing beyond the eyes. Medial carina of occiput short, not continuing posteriorly beyond the midddle of the eyes. Cuticle smooth.

Thorax. Pronotum with straight parallel lateral margins. Anterior margin smooth, posterior margin somewhat thickened and with a very slight medial embayment. Pleural sutures marked only by a line, not carinate. Cuticle of meso- and metanotum with numerous granules and transverse striae. Prothoracic femur square in cross-section, with serrate carinae and small tubercles, tibia with 11/12 spines. Mesothoracic femur practically smooth, tibia with 11/12 spines. Metathoracic femur strongly thickened in its basal half, with two weak dorsal carinae, denticles sparser and smaller than in *septentrionalis*. Metathoracic tibia with 10/16 relatively large spines.

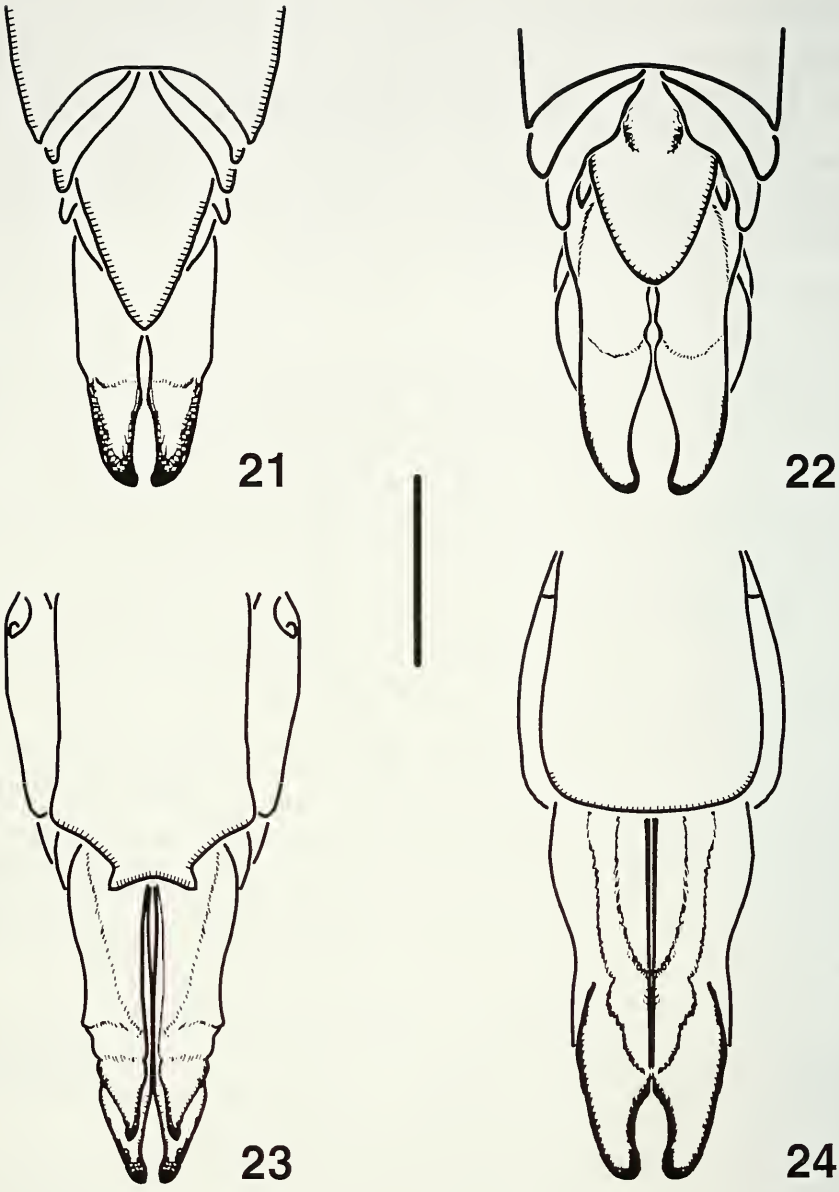
Abdomen. 1st abdominal notum transversely striate, this condition continuing on succeeding abdominal segments in the midline only, the remaining areas smooth. Medial carina absent. Subgenital plate (Figure 16) normally short and rounded, longer and more pointed when the aedeagus is protruded (Figure 20). Supraanal plate shield-shaped with a sharply pointed medial terminal process (Figure 18).

Coloration. General coloration blackish-brown, tibial spines black.

Female:

The ♀♀ of the species *septentrionalis* and *panamensis* are easier to distinguish than are the ♂♂, especially by the structure of their spermathecae and subgenital plates. They are of the same length but *P. panamensis* is more gracile than *P. septentrionalis*.

Genitalia: Two spermathecae present, both with long, fine and convoluted ducts with numerous diverticula. The two distal ampullae differ. One is large, entire and



FIGS 21-24

21. Supraanal plate and ovipositor valves of *Proscopia septentrionalis*. Scale bar 5 mm. – 22. Supraanal plate and ovipositor valves of *Proscopia panamensis*. Scale bar 5 mm. – 23. Subgenital plate of ♀ of *Proscopia septentrionalis*. Scale bar 5 mm. – 24. Subgenital plate of ♀ of *Proscopia panamensis*. Scale bar 5 mm.

TABLE 3. Dimensions of ♂ of *P. panamensis* (mm)

Specimen number	98047, ABP 225 (Holotype)
Length of head	9.11
Length of rostrum	1.66
Largest diameter of eye	2.63
Width of head (dorsally, at the level of the pronotum)	4.2
Length of pronotum	23.69
Length of mesonotum	4.8
Length of metanotum	2.52
Length of subgenital plate	1.39

smooth; the other is smaller and divided into two diverticula, apical and preapical, the latter with a smaller digitiform prolongation (Figure 14).

External morphology. Head. Rostrum as in ♂ (Figure 8). Seen from the side the dorsal margin is decidedly more sinuous than in *septentrionalis*.

Thorax. Pronotum with straight margins and spiny cuticle. Some spines are large and conspicuous, particularly above the pleural suture. Margins as in *P. septentrionalis*. Meso and metanotum with a wide median band of granular cuticle. The extreme posterior of the metanotum is elevated and pleated, ending in a raised wavy margin. Pleural suture smooth in the mesonotum and marked by a carina in the metanotum. Pleura granular. The metathoracic epimeron has a medial carina. Apterous.

Prothoracic leg. Femur rounded and smooth; tibia quadrangular in cross section, 13/12 spines. Mesothoracic leg similar, 11/15 tibial spines. Metathoracic femur basally inflated and bearing 2 medial carinae, each with a line of tubercles; ventral surface with a single weak carina. Metathoracic knees with two short dorsal spines. Femoral cuticle is granular and similar to that of the pronotum. 16/11 tibial spines. The two more ventral tibial spurs are smaller, the two dorsal spurs somewhat larger and stronger.

Abdomen. The 1st abdominal segment bears a small anterior tubercle and transverse striations. The remaining abdominal segments smooth and minutely punctate, with a weak medial dorsal carina. Subgenital plate rounded and smooth, supranal plate pointed, cerci small and pointed. Ovipositor large and strong. Edges of the valves minutely toothed (Figures 22, 24).

Coloration. The living ♀ is olive green-brown on the head and thorax. The abdominal tergites are dark blackish brown with light yellow ventral margins, forming a conspicuous pale stripe along the sides of the abdomen from segments 2-8. Supraanal plate light brown, contrasting with the other abdominal tergites. Eyes reddish brown. Legs, dark brown, shading to black distally.

TABLE 4: Dimensions of ♀♀ of *P. panamensis* (mm).

Specimen number	Adult, 97532, ABP 81	Larva, 98048	Larva 97533, alcohol specimen
Length of head	12.6	7.6	11.4
Length of rostrum	1.9	1.66	1.3
Largest diameter of eye	3.3	2.63	2.1
Width of head (dorsally, at the level of the pronotum)	6.2	5.41	5.2
Length of pronotum	32.7	24.68	26.7
Length of mesonotum	5.3	3.1	4.0
Length of metanotum	4.8	3.88	4.1

3. **Proscopia** sp.

SPECIMENS EXAMINED

PANAMA: Prov. Panamá: Barro Colorado Island, 24 May 1957 (Schrader) adult ♂, specimen no. 98049 (ANSP). Specimen bears labels "A86 BCI. Panama 24.5.57 Schrader coll.", "Compared with type. ANSP has type. *Proscopia septentrionalis* ♂ Bruner. Det. Rehn 1958" in the handwriting of J.A.G. Rehn. "Male. Genitalia already removed (NDJ)" in handwriting of N.D. Jago. COSTA RICA: Prov. San José: Pozo Azul de Pirrís, June 1905 (M. A. Carriker), juvenile ♀, specimen no. 98050. Originally described by Bruner as the ♂ type of *T. septentrionalis* (ANSP).

As indicated on the label cited above, the genitalia were dissected from the only ♂ specimen (by Rehn?) prior to Jago's examination in the 1980s, but are no longer present and must be assumed lost.

The external morphology differs considerably from that of the previous species, and appears to indicate a different taxon. In the absence of an adult ♀ specimen and of the ♂ internal genitalia, however, the possibility cannot be excluded that either *P. panamensis* or *P. septentrionalis* is morphologically very variable or polymorphic and actually includes these specimens. The differences are as follows:

Male:

Head. Fastigium shorter than in *septentrionalis*, and somewhat more truncated than in *panamensis*. A medial carina runs from the tip of the fastigium to the occiput.

Thorax: A prominent medial carina runs along the entire thorax. Thorax without ornament, either dorsally or on the pleura, and lacking a metathoracic median tubercle. The pronotum is divided into two clearly marked regions, the anterior with a granular cuticle, the posterior smooth. The legs are damaged but seem different from those of the those other two species.

Abdomen. Well marked medial carina. Supraanal plate with a sharply pointed terminal process. Subgenital plate rounded and obtuse as in other *Proscopia* species.

Female (larva):

Rostrum identical to that of ♂ in shape and ornamentation, but proportionately longer. The adult ♀ rostrum is probably longer that that of *septentrionalis*.

Thorax. Meso- and metanotum have one lateral additional carina relative to the other two species. Legs: these are in better condition than in the ♂ specimen. Prothoracic femur square in cross-section with serrate edges, tibia similar with 16 external and 12 internal spines. Mesothoracic femur (only segment preserved) similar to that of prothorax. Metathoracic femur scarcely at all inflated at base, two well-marked dorsal carinae, knees with two large dorsal spines. Metathoracic tibia square in cross-section with serrate edges, 8 internal and 17 external spines, which are large and expanded at the base. Spurs identical to those of other species.

Abdomen. Terga similar to meso- and metanotum. Tip of supraanal plate broken, probably as in ♂. Subgenital plate straight.

TABLE 5. Dimensions of ♂ of *P.* sp. (mm)

Specimen number	98049
Length of head	9.0
Length of rostrum	2.0
Largest diameter of eye	2.2
Width of head (dorsally, at the level of the pronotum)	5.8
Length of pronotum	18.25
Length of mesonotum	(broken)
Length of metanotum	2.80
Length of subgenital plate	(broken)

DISCUSSION

GENERIC ATTRIBUTION

JAGO (1989: 273) defined the genus *Corynorhynchus* on the structure of the ♂ genitalia. He clearly states that the phallic complex of this genus lacks the transverse plate (1), that the lophi are greatly reduced and that the lateral plates (4) are reduced to a pair of angular spicules. The genus also lacks supplementary plates (6) and the genital duct is not sclerotized.

The two species which we describe above do not fit this description at all. The presence of a transverse plate (1), strongly fused to prominent and well sclerotized lophi and supported by lateral complementary plates (6), and the presence of well-developed lateral plates (4), are by contrast in accordance with JAGO's definition (1989: 282) of *Proscopia*. Additionally, his description of the manner in which the sclerotized ♂ genital duct joins the membrane in *Proscopia* corresponds exactly to the structure we see in our specimens. Our specimens conflict in some characters with Jago's definition: especially, in *panamensis* the lateral plates (4) are not fused posteriorly (though they are in *septentrionalis*) and they form a pod-like structure similar to that of *Cephalocoema*. There are also differences in the supraanal plate. However, Jago examined only two species of *Proscopia* (*aberrans* Hebard and *gigantea* Klug) and his definition may be unduly restrictive. No other genus fits our material better.

In this article we also present data on the ♀ spermatheca, which has previously been shown (BENTOS-PEREIRA 1997) to be useful within this group, particularly to

distinguish between closely related species. DESCAMPS (1973) did not describe the spermatheca of *Corynorhynchus*, but in other investigations (Bentos-Pereira, unpublished) it has proven to be of his Type 1, a simple spermatheca consisting of an ampulla at the end of a long duct. As described above, the spermathecae of the taxa described here are in contrast extremely complex; *P. panamensis* has a Type 4 spermatheca with two independent terminal ampullae and numerous diverticula, while that of *P. septentrionalis* is somewhat less complex, with one terminal ampulla and a single tube but with various diverticula. We have also found the subgenital plate to be useful, especially in the case of *P. septentrionalis*. This character was first used within the Proscopiidae by LIANA (1972, 1980). Although it is not as definitive as the aedeagus or the spermatheca, it supplies useful information.

All the described species of *Corynorhynchus* are markedly sexually dimorphic in the structure of the rostrum: the ♂ rostrum is roughly conical, but that of the ♀ has larger or smaller apical expansions. The rostra of *Proscopia*, on the other hand, like those of the closely-related (vide JAGO 1983) *Cephalocoema*, are not more dimorphic than one would expect from the difference in size between the sexes. In this character too the taxa treated here agree with other species of *Proscopia*, but not with those of *Corynorhynchus*. All in all we have no doubt that the former is the correct genus to which to assign the Central American proscopiid species.

In the absence of the internal genitalia we cannot be sure as to the generic placing of the third taxon described above, but to judge from the external morphology it too probably belongs to *Proscopia*.

DISTRIBUTION

P. septentrionalis has long been known as the most northerly proscopiid, and Pozo Azul de Pirrís near the south western coast of Costa Rica is often quoted as the northern limit of the family. The great rarity of the Central American species, however, and their very cryptic form and coloration, makes us doubt the necessity of this conclusion. It seems quite possible that these or similar species have a wider distribution in Central America than is currently known, at least on the Caribbean side, which has much wet forest. This speculation is supported by the probable presence of a third, as yet undescribed, species in both Panama and Costa Rica, which has previously evaded detection.

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